

WHAT IS CLAIMED IS:

1           1. In a telecommunications system having voice  
2 communications subject to noise, a distributed noise  
3 suppression system for suppressing said noise for a given one  
4 of said voice communications, said noise suppression system  
5 comprising:

6           a first noise suppressor, within a first device,  
7 for suppressing noise received by said first device prior  
8 to transmission of the noise-suppressed signal to a  
9 destination device; and

10           a second noise suppressor, within said destination  
11 device, for further suppressing the noise-suppressed signal  
12 received from said first device to said destination device,  
13 whereby the noise associated with said given one of said  
14 voice communications is reduced twice.

1           2. The noise suppression system according to claim 1,  
2 wherein said first device is a mobile terminal.

1           3. The noise suppression system according to claim 1,  
2 wherein said first device is selected from the group  
3 consisting of:

4 a microphone, terminal, PC, Internet device, and  
5 a transmission system.

1 4. The noise suppression system according to claim 1,  
2 wherein said destination device is a mobile telephone.

1 5. The noise suppression system according to claim 1,  
2 wherein said destination device is selected from the group  
3 consisting of:

4 a loudspeaker, terminal, PC, Internet device, and  
5 a transmission system.

1 6. The noise suppression system according to claim 1,  
2 further comprising:

3 an encoder, within said first device and attached  
4 to said first noise suppressor, for encoding said noise-  
5 suppressed signal from said first noise suppressor prior to  
6 transmission to said destination device.

1           7. The noise suppression system according to claim 6,  
2 further comprising:

3           a decoder, within said destination device and  
4 attached to said second noise suppressor, for decoding said  
5 noise-suppressed signal received from said transmitter prior  
6 to said second noise suppressor.

1           8. The noise suppression system according to claim 7,  
2 wherein said noise-suppressed signal received from said  
3 transmitter prior to said second suppressor is subject to  
4 signal distortion caused by low bit-rate speech encoding by  
5 said encoder, and wherein said second noise suppressor is  
6 tuned to suppress said signal distortion.

1           9. The noise suppression system according to claim 1,  
2 wherein the noise associated with said given one of said  
3 voice communications is reduced by said first suppressor by  
4 about 6 to 14 dB.

1           10. The noise suppression system according to claim 9,  
2 wherein the noise is reduced by said first suppressor by  
3 about 8 to 10 dB.

1           11. The noise suppression system according to claim 10,  
2       wherein the noise is reduced by said first suppressor by  
3       about 8 dB.

1           12. The noise suppression system according to claim 1,  
2       wherein the noise associated with said given one of said  
3       voice communications, after suppression by said first noise  
4       suppressor, is further reduced by said second suppressor by  
5       about 1 to 10 dB.

1           13. The noise suppression system according to claim 12,  
2       wherein the noise is reduced by said second suppressor by  
3       about 2 to 8 dB.

1           14. The noise suppression system according to claim 13,  
2       wherein the noise is reduced by said second suppressor by  
3       about 6 dB

1           15. The noise suppression system according to claim 1,  
2       wherein the noise associated with said given one of said  
3       voice communications is acoustic.

1           16. The noise suppression system according to claim 1,  
2 wherein the noise associated with said given one of said  
3 voice communications, after suppression by said first noise  
4 suppressor, is from an encoding of said noise-suppressed  
5 signal.

1           17. The noise suppression system according to claim 1,  
2 wherein the noise associated with said given one of said  
3 voice communications, after suppression by said first noise  
4 suppressor, is from transmission of said noise-suppressed  
5 signal.

1           18. The noise suppression system according to claim 1,  
2 wherein said first and second noise suppressors employ  
3 respective algorithms therein tuned to the respective noises  
4 encountered.

1           19. The noise suppression system according to claim 18,  
2 wherein the first and second noise suppression algorithms  
3 adapt dynamically to the respective noises encountered.

1           20. In a telecommunications system having voice  
2 communications subject to noise, a mobile telephone having

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3 suppression means therein for suppressing said noise for a  
4 given one of said voice communications, said mobile telephone  
5 comprising:

6 a first noise suppressor for suppressing noise received  
7 by said mobile telephone prior to transmission of the noise-  
8 suppressed signal to a destination device; and

9 a second noise suppressor for suppressing a received  
10 noise-suppressed signal received from a transmitting device  
11 having a first noise suppressor therein, whereby the noise  
12 associated with said given one of said voice communications  
13 is reduced twice.

1 21. The mobile telephone according to claim 20, further  
2 comprising:

3 an encoder, attached to said first noise  
4 suppressor, for encoding said noise-suppressed signal from  
5 said first noise suppressor prior to transmission to said  
6 destination device.

1           22. The mobile telephone according to claim 20, further  
2 comprising:  
3           a decoder, attached to said second noise  
4 suppressor, for decoding said received noise-suppressed  
5 signal received from said transmitting device prior to said  
6 second noise suppressor.

1           23. The mobile telephone according to claim 22, wherein  
2 said noise-suppressed signal received from said transmitter  
3 prior to said second suppressor is subject to signal  
4 distortion caused by low bit-rate speech encoding by said  
5 encoder, and wherein said second noise suppressor is tuned  
6 to suppress said signal distortion.

1           24. The mobile telephone according to claim 20, wherein  
2 the noise associated with said given one of said voice  
3 communications is reduced by said first suppressor by about  
4 6 to 14 dB.

1           25. The mobile telephone according to claim 24, wherein  
2 the noise is reduced by said first suppressor by about 8 to  
3 10 dB.

1           26. The mobile telephone according to claim 25, wherein  
2           the noise is reduced by said first suppressor by about 8 dB.

1           27. The noise suppression system according to claim 20,  
2           wherein the noise associated with said given one of said  
3           voice communications, after suppression by said first noise  
4           suppressor, is further reduced by said second suppressor by  
5           about 1 to 10 dB.

1           28. The mobile telephone according to claim 27, wherein  
2           the noise is reduced by said second suppressor by about 2 to  
3           8 dB.

1           29. The mobile telephone according to claim 28, wherein  
2           the noise is reduced by said second suppressor by about 6 dB

1           30. The mobile telephone according to claim 20, wherein  
2           the noise associated with said given one of said voice  
3           communications is acoustic.





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